

UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION  
Washington, D.C. 20549

SCHEDULE 14A

Proxy Statement Pursuant to Section 14(a) of  
the Securities Exchange Act of 1934

Filed by the Registrant

Filed by a Party other than the Registrant

Check the appropriate box:

- Preliminary Proxy Statement
- Confidential, for Use of the Commission Only (as permitted by Rule 14a-6(e)(2))**
- Definitive Proxy Statement
- Definitive Additional Materials
- Soliciting Material under §240.14a-12

**Genocea Biosciences, Inc.**

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(Name of Registrant as Specified In Its Charter)

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(Name of Person(s) Filing Proxy Statement, if other than the Registrant)

Payment of Filing Fee (Check the appropriate box):

- No fee required.
- Fee computed on table below per Exchange Act Rules 14a-6(i)(1) and 0-11.
  - (1) Title of each class of securities to which transaction applies:
  - (2) Aggregate number of securities to which transaction applies:  
Per unit price or other underlying value of transaction computed pursuant to Exchange Act Rule 0-11 (set forth the amount on which
  - (3) the filing fee is calculated and state how it was determined):
  - (4) Proposed maximum aggregate value of transaction:
  - (5) Total fee paid:
- Fee paid previously with preliminary materials.
  - Check box if any part of the fee is offset as provided by Exchange Act Rule 0-11(a)(2) and identify the filing for which the offsetting
  - fee was paid previously. Identify the previous filing by registration statement number, or the Form or Schedule and the date of its filing.
  - (1) Amount Previously Paid:
  - (2) Form, Schedule or Registration Statement No.:
  - (3) Filing Party:
  - (4) Date Filed:

**\*\*\* Exercise Your *Right to Vote* \*\*\***  
**Important Notice Regarding the Availability of Proxy Materials for the  
Stockholder Meeting to Be Held on June 1, 2020.**

**GENOCEA BIOSCIENCES, INC.**

GENOCEA BIOSCIENCES, INC.  
ATTN: CORPORATE CONTROLLER  
100 ACORN PARK DRIVE, 5TH FLOOR  
CAMBRIDGE, MA 02140

**Meeting Information**

**Meeting Type:** Annual Meeting  
**For holders as of:** April 6, 2020  
**Date:** June 1, 2020    **Time:** 9:00 A.M. EDT  
**Location:** Meeting live via the Internet-please visit  
[www.virtualshareholdermeeting.com/GNCA2020](http://www.virtualshareholdermeeting.com/GNCA2020)

The company will be hosting the meeting live via the Internet this year. To attend the meeting via the Internet please visit [www.virtualshareholdermeeting.com/GNCA2020](http://www.virtualshareholdermeeting.com/GNCA2020) and be sure to have the information that is printed in the box marked by the arrow → [XXXX XXXX XXXX XXXX] (located on the following page).

You are receiving this communication because you hold shares in the company named above.

This is not a ballot. You cannot use this notice to vote these shares. This communication presents only an overview of the more complete proxy materials that are available to you on the Internet. You may view the proxy materials online at [www.proxyvote.com](http://www.proxyvote.com) or easily request a paper copy (see reverse side).

We encourage you to access and review all of the important information contained in the proxy materials before voting.

**See the reverse side of this notice to obtain proxy materials and voting instructions.**

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— **Before You Vote** —  
How to Access the Proxy Materials

**Proxy Materials Available to VIEW or RECEIVE:**

NOTICE AND PROXY STATEMENT      FORM 10-K

**How to View Online:**

Have the information that is printed in the box marked by the arrow → [XXXX XXXX XXXX XXXX] (located on the following page) and visit: [www.proxyvote.com](http://www.proxyvote.com).

**How to Request and Receive a PAPER or E-MAIL Copy:**

If you want to receive a paper or e-mail copy of these documents, you must request one. There is NO charge for requesting a copy. Please choose one of the following methods to make your request:

- 1) BY INTERNET:      [www.proxyvote.com](http://www.proxyvote.com)
- 2) BY TELEPHONE:    1-800-579-1639
- 3) BY E-MAIL\*:      [sendmaterial@proxyvote.com](mailto:sendmaterial@proxyvote.com)

\* If requesting materials by e-mail, please send a blank e-mail with the information that is printed in the box marked by the arrow → [XXXX XXXX XXXX XXXX] (located on the following page) in the subject line.

Requests, instructions and other inquiries sent to this e-mail address will NOT be forwarded to your investment advisor. Please make the request as instructed above on or before May 18, 2020 to facilitate timely delivery.

— **How To Vote** —  
Please Choose One of the Following Voting Methods

**Vote By Internet:**

*Before The Meeting:*

Go to [www.proxyvote.com](http://www.proxyvote.com). Have the information that is printed in the box marked by the arrow → [XXXX XXXX XXXX XXXX] (located on the following page) available and follow the instructions.

*During The Meeting:*

Go to [www.virtualshareholdermeeting.com/GNCA2020](http://www.virtualshareholdermeeting.com/GNCA2020). Have the information that is printed in the box marked by the arrow → [XXXX XXXX XXXX XXXX] (located on the following page) available and follow the instructions.

**Vote By Mail:** You can vote by mail by requesting a paper copy of the materials, which will include a proxy card.

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**Voting Items**

**The Board of Directors recommends you vote FOR the following:**

1. Election of Directors

**Nominees:**

- 01) Mr. William Clark
- 02) Mr. Ronald Cooper
- 03) Dr. George Siber

**The Board of Directors recommends you vote FOR the following proposals:**

2. To approve an amendment to the Company's restated certificate of incorporation to provide for an increase in the total number of shares of common stock that the Company is authorized to issue from 85,000,000 shares to 170,000,000 shares.
3. To approve an amendment to the Genoea Biosciences, Inc. Amended and Restated 2014 Equity Incentive Plan to increase the number of shares of the Company's common stock reserved for issuance thereunder by 2,800,000 shares, to increase the individual non-employee director share limit contained in the plan and to remove the other individual participant limits contained in the plan.
4. To approve, on an advisory basis, the compensation paid to our named executive officers.

**The Board of Directors recommends you vote 1 year on the following proposal:**

5. To approve, on an advisory basis, the frequency of future advisory votes on the compensation paid to our named executive officers.

**The Board of Directors recommends you vote FOR the following proposal:**

6. To ratify the appointment of Ernst & Young LLP as the independent registered public accounting firm for the Company for the fiscal year ending December 31, 2020.

**NOTE:** Such other business as may properly come before the meeting or any adjournment thereof.

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